

REMARKS

Applicant appreciates the Examiner's thorough consideration provided the present application. Claims 1-6 and 8-13 are now present in the application. Claim 1 has been amended. Claims 11-13 have been added. Claim 1 is independent. Reconsideration of this application, as amended, is respectfully requested.

Claim Rejections Under 35 U.S.C. §§ 102 & 103

Claims 1-6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by JP-10331864. Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over JP-10331864 in view of Chern, U.S. Patent No. 6,250,438. Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over JP-10331864 in view of Kuivamaki, U.S. Patent No. 5,853,165. Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over JP-10331864 in view of Samejima, U.S. Patent No. 6,352,243. These rejections are respectfully traversed.

In light of the foregoing amendments, Applicant respectfully submits that these rejections have been obviated and/or rendered moot. As the Examiner will note, independent claim 1 has been amended to recite a combination of elements including “[a] torque controlled brake”, “the cam means causing by the impact of torque and rotation of the drive shaft and the possible countertorque of the driven shaft the relative axial position between the discs and the friction surface means to change in order to detach at least partly the braking engagement against a force caused by the spring arrangement” and “the spring arrangement comprises a first spring array pressing the first disc towards the second cam part and a second spring array pressing the first cam part towards the

second cam part, and that the spring force of the first spring array is considerably greater than the spring force of the second spring array, the first spring array and the second spring array being apart and separated from each other”. Support for the amendments to claim 1 can be found in FIGs. 1 and 3 as originally filed. Applicant respectfully submits that the above combination of elements as set forth in amended independent claim 1 is not disclosed nor suggested by the references relied on by the Examiner.

JP-10331864 discloses a creep prevention device for a multiple disc clutch, not a torque controlled brake as recited in claim 1. In fact, the clutch of JP-10331864 does not operate in a torque controlled manner. JP-10331864 discloses that this device shown in FIG. 1 operates in a manner that when rotation actuation of the cam lever 42 is carried out, the can section 43 of the clutch cam 40 presses the edge of an outer ring of the spiral wound gasket 30 and makes it move to the left. Consequently, the press plate 31 retreats to the left, the pressure plate 21 is slippery, and the transfer of power is no longer made (see paragraph 0009; English translation of JP-10331864). In other words, this clutch device operates by rotating the cam lever 42 to push the gasket 30 to the left. JP-10331864 fails to disclose that the clutch device operates by the impact of torque and rotation of the drive shaft 12 and the possible countertorque of the driven shaft 13. Therefore, JP-10331864 fails to teach “the cam means causing by the impact of torque and rotation of the drive shaft and the possible countertorque of the driven shaft the relative axial position between the discs and the friction surface means to change in order to detach at least partly the braking engagement against a force caused by the spring arrangement” as recited in claim 1.

In addition, although the Examiner alleged that the spiral wound gasket 30 and the braking file plate 55 are the second cam part of claim 1, Applicant respectfully disagrees. In fact, those elements are merely thrust bearings and cannot provide the function of the cam means as recited in claim 1.

The Examiner alleged that the engagement spring 17 of JP-10331864 includes both the first spring array and the second spring array of claim 1. Applicant respectfully disagrees. First, the engagement spring 17 is simply a single disc spring (see paragraph 0008; English translation of JP-10331864) and is unreasonable to be interpreted as two spring arrays. Second, the Examiner seemed to ignore the features of the first and second spring arrays recited in claim 1. In particular, based upon the Examiner construction of the engagement spring 17, the first three spring portions is the first spring array and the last spring portion is the second spring portion. However, the engagement spring 17 (either the first three spring portions or the last spring portion) presses the shock plate 32 and therefore presses the spiral wound gasket 20 (referred to by the Examiner as the first cam part) toward away from the spiral wound gasket 30 and the braking file plate 55 (referred to by the Examiner as the second cam part). Therefore, JP-10331864 also fails to teach “a second spring array pressing the first cam part towards the second cam part” as recited in claim 1.

In addition, since the engagement spring 17 is a single disc spring, the first three spring portions and the last spring portion are actually formed as a single piece. Therefore, the first three spring portions and the last spring portion are not “apart and separated from each other” as recited in amended claim 1.

With regard to the Examiner's reliance on Chern, Kuivamaki and Samejima, these references have only been relied on for their teachings related to the subject matter of dependent claims. These references also fail to disclose the above combination of elements as set forth in amended independent claim 1. Accordingly, these references fail to cure the deficiencies of JP-10331864.

Accordingly, none of the references utilized by the Examiner individually or in combination teach or suggest the limitations of amended independent claim 1 or its dependent claims. Therefore, Applicant respectfully submits that independent claim 1 and its dependent claims clearly define over the teachings of the references relied on by the Examiner.

Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. §§ 102 and 103 are respectfully requested.

Claim Rejection Under Obviousness-type Double Patenting

Claim 1 stands rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,877,594 in view of JP-10331864. This rejection is respectfully traversed.

A complete discussion of the Examiner's rejection is set forth in the Office Action, and is not being repeated here.

As mentioned, JP-10331864 fails to teach at least "the spring arrangement comprises a first spring array pressing the first disc towards the second cam part and a second spring array pressing the first cam part towards the second cam part..., the first

spring array and the second spring array being apart and separated from each other” as recited in claim 1.

Applicant respectfully submit that claim 1 of U.S. Patent No. 6,877,594 merely discloses a spring device and fails to teach that the spring device comprises any first or second spring as recited in claim 1 of the instant application.

Accordingly, neither of the references utilized by the Examiner individually or in combination teaches or suggests the limitations of amended independent claim 1. Therefore, Applicant respectfully submits that independent claim 1 clearly defines over the teachings of the references relied on by the Examiner.

Accordingly, reconsideration and withdrawal of the double patenting rejection are respectfully requested.

Additional Claims

Additional claims 11-13 have been added for the Examiner’s consideration.

Dependent claims 11 recites “the first spring array pressing the first disc towards the second cam part in a first direction and the second spring array pressing the first cam part towards the second cam part in a second direction opposite to the first direction”. As shown in JP-10331864, the engagement spring 17 always presses the shock plate 32 in the same direction (*i.e.*, from right to left). Therefore, the first three spring portions and the last spring portion always provide the pressure in the same direction, not opposite directions as recited in claim 11.

Dependent claims 12 and 13 recite “the second cam part is located between the first spring array and the second spring array”. As mentioned, the first three spring

portions and the last spring portion are actually formed as a single piece. Therefore, no element can be located between the first three spring portions and the last spring portion.

As shown in FIG. 1 of JP-10331864, the spiral wound gasket 30 and the braking file plate 55 (referred to by the Examiner as the second cam part) is located besides, not between, the first three spring portions and the last spring portion of the engagement spring 17.

Therefore, JP-10331864 also fails to teach the recitation of claims 12 and 13.

Favorable consideration and allowance of additional claims 11-13 are respectfully requested.

CONCLUSION

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

Pursuant to 37 C.F.R. §§1.17 and 1.136(a), Applicant respectfully petitions for a one (1) month extension of time for filing a reply in connection with the present application, and the required fee of \$120.00 is attached hereto.

In the event there are any matters remaining in this application, the Examiner is invited to contact Joe McKinney Muncy, Registration No. 32,334 at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By


Joe McKinney Muncy

Registration No.: 32,334

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road

Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant

